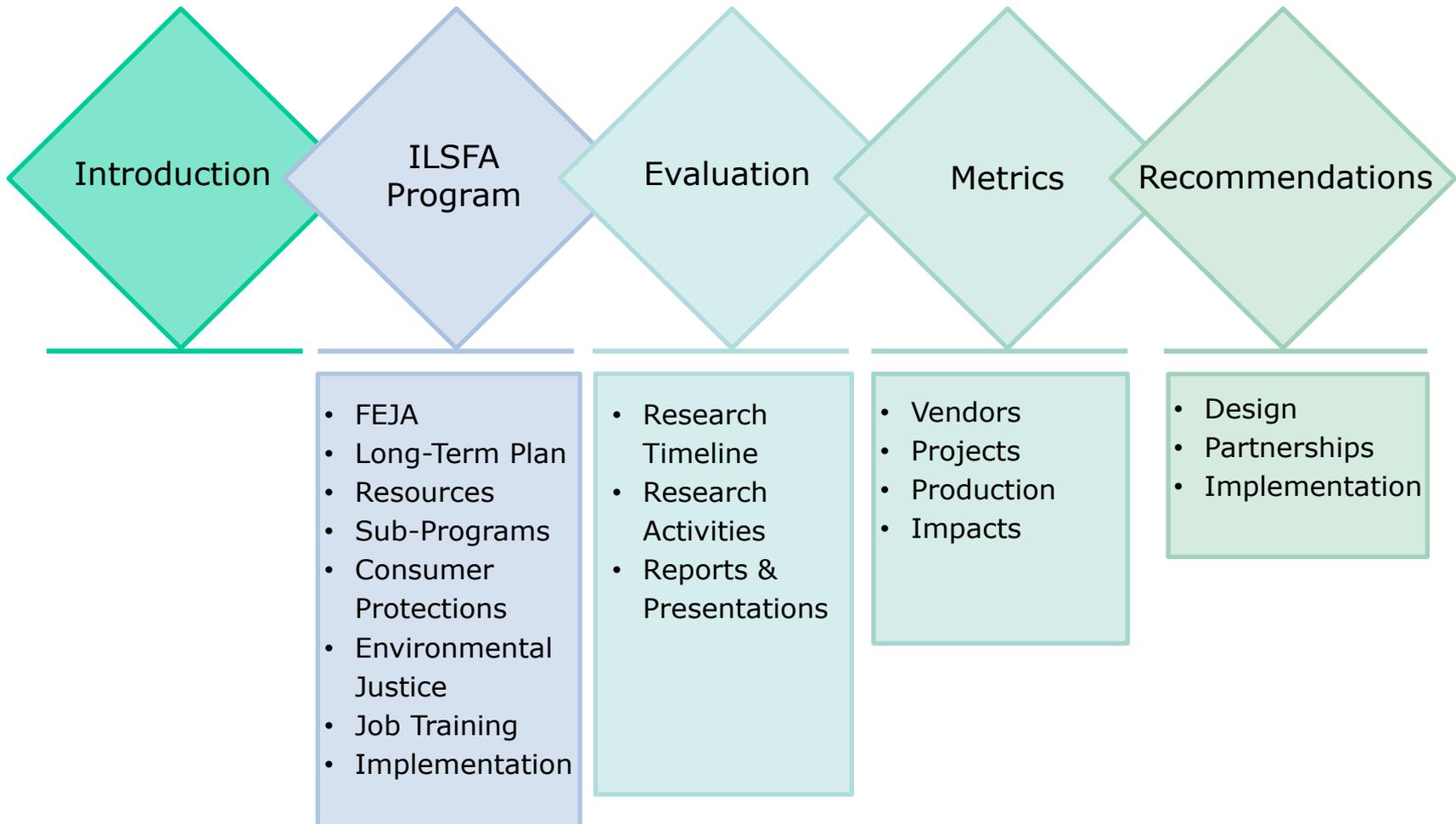


Illinois Solar for All Evaluation

Jackie Berger

November 15, 2021

Overview





Applied Public Policy Research
APPRISE
Institute for Study and Evaluation

Introduction

APPRISE



Applied Public Policy Research
APPRISE
Institute for Study and Evaluation

Nonprofit Research Institute

Established
in 2002

Princeton,
NJ

Mission

Analyze
data and
information
to assess
and
improve
public
programs

Research Areas

Energy
Efficiency &
Renewable
Energy

Energy
Affordability

Clients

Federal
Government
(DOE, HHS)

State
Governments

Utility
Companies

Nonprofits

ILSFA

Illinois Solar for All (ILSFA) was mandated by the Future Energy Jobs Act of 2017.

ILSFA Foundation

ILSFA Objectives

Evaluation

- Maximize the development of new photovoltaic generating facilities.
- Create long-term, low-income solar marketplace throughout the state.
- Integrate with existing energy efficiency initiatives.
- Minimize administrative costs.

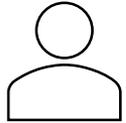
August 2019
– June 2021

- Measure program impacts.
- Assess program barriers and opportunities.
- Recommend program changes to achieve greater impacts.



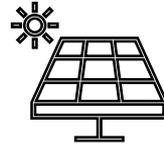
ILSFA Program

ILSFA Program



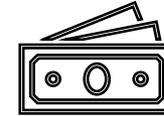
Future Energy Jobs Act (FEJA)

- Mandated the Illinois Solar for All Program.
- Brings photovoltaics to low-income communities in Illinois.
- Integrate with existing energy efficiency initiatives.
- Requires independent evaluation with criteria developed through stakeholder process.



Long-Term Renewable Resources Procurement Plan

- Economic Benefits: No up-front costs, ongoing payments less than 50% of estimated production.
- Project Viability: No funding for roof repair, wiring, or other needed repairs.
- REC Payments: Price on \$/REC basis; based on 15-year REC production.
- Second Revised Plan will be released by 1/13/2022.



Resources

- ILSFA is funded through the Renewable Energy Resources Fund (RERF) and utility funds collected through Renewable Portfolio Standard (RPS) tariffs.
- RERF Funding: Up to \$20 million/year for 7-8 years.
- Utility Funding: \$10 to \$11.7 million annually.
- Funding will increase to up to \$50 million annually with the 2021 Climate and Equitable Jobs Act.

ILSFA Program

Low-Income Distributed Generation

Single-family homes and multi-family buildings

Benefits through net metering or reduction of energy costs



Low-Income Community Solar

Subscriptions to a share of a PV project

Participants receive credits on their electric bill



Non-Profits and Public Facilities

On-site photovoltaic generation

Facilities within LI communities or EJ census tracts



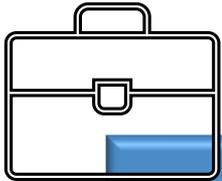
Low-Income Community Solar Pilot Projects

Competitive procurement approach

Based only on the price for REC delivery



ILSFA Program



Job Training

- Project annual installations must include
 - Year 1: 10% of hours from qualified job trainees
 - Year 2: 20% of hours from qualified job trainees
 - Year 3+: 33% of hours from qualified job trainees
- 33% of all DG projects annually must include at least one qualified job trainee



Implementation

- August 2019: 1st Project Selections
- September – October 2019: 2nd Project Selections for Low-Income Community Solar.
- December 2019: LICS Pilot Project Bids & Contracts
- September – October 2020: 3rd Project Selections
- August – October 2021: 4th Project Selections



Evaluation

Evaluation Reports

October 2019

Phase I Final Report

April 2020

**Phase II – 1st
Interim Report**

August 2020

**Phase II – 2nd
Interim Report**

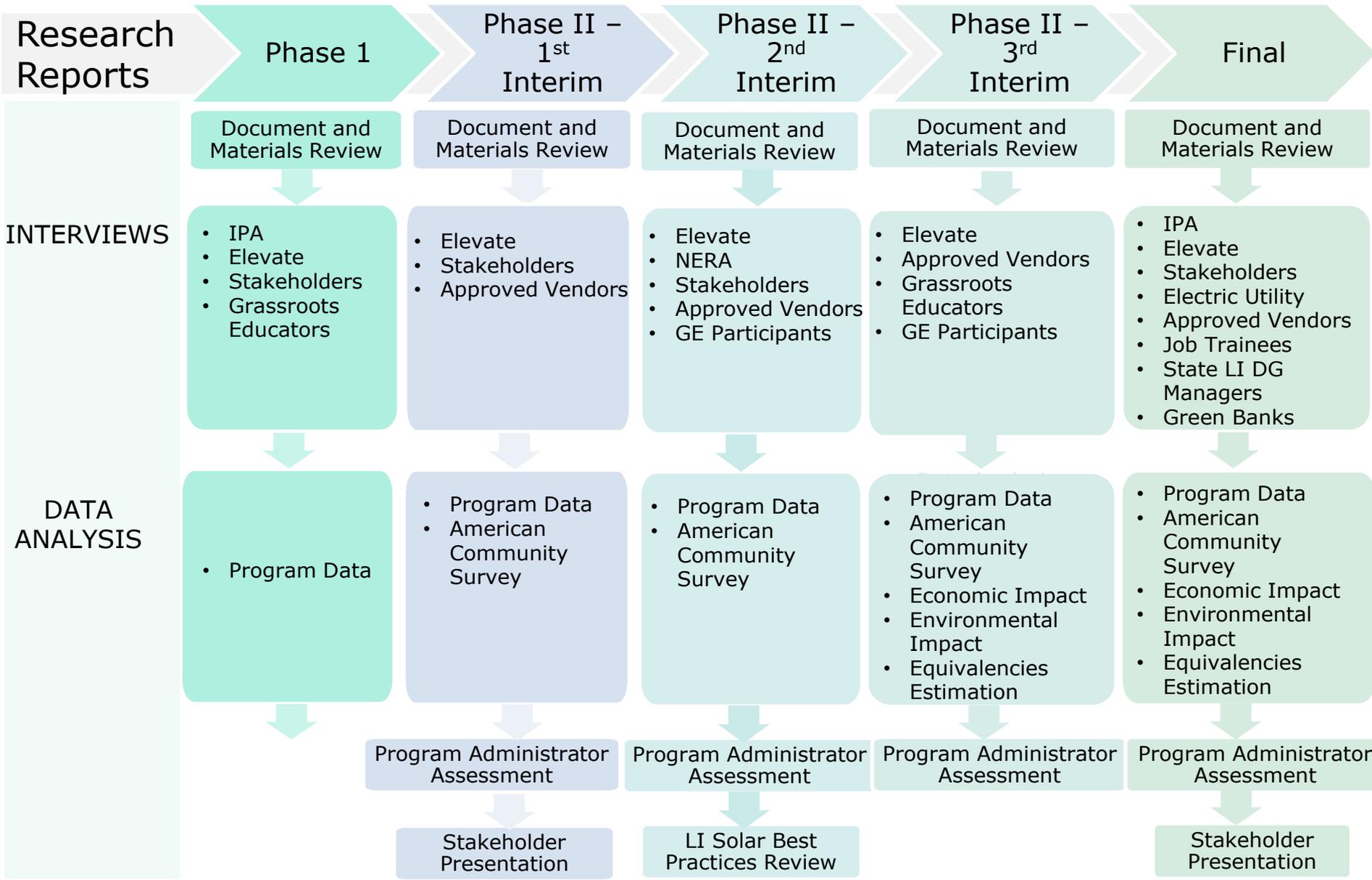
April 2021

**Phase II – 3rd
Interim Report**

October 2021

**Phase II Final Report
Summary Report**

Evaluation Research



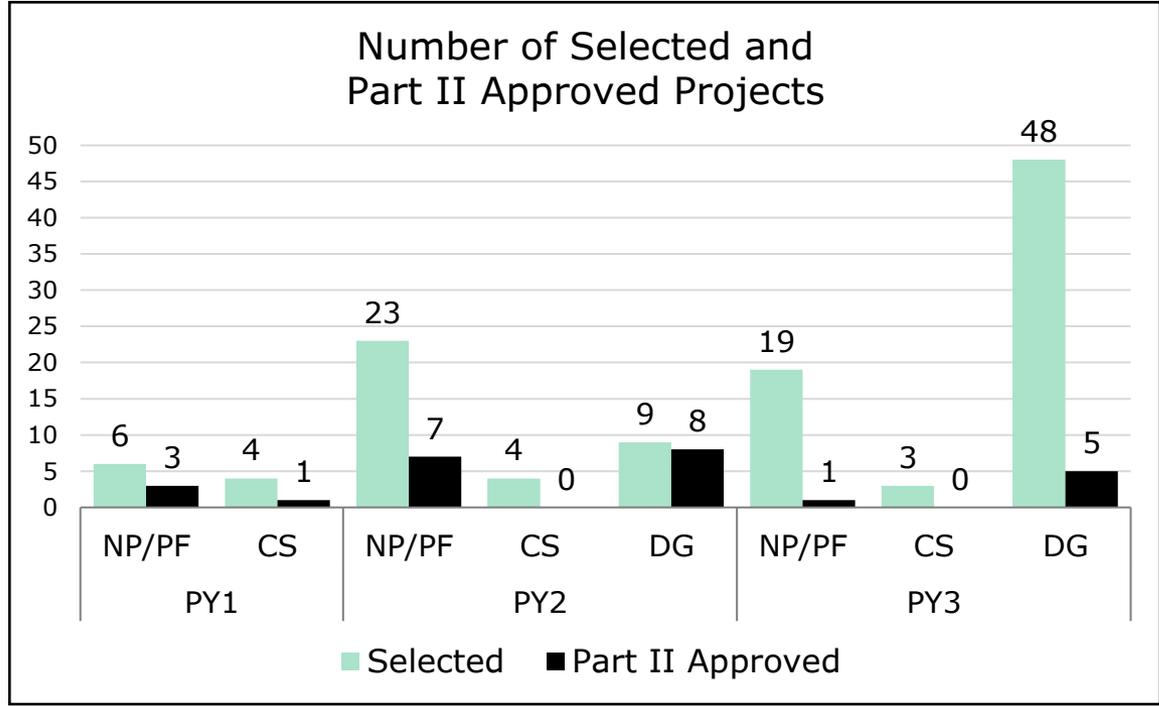


Metrics

ILSFA AVs & Projects

Approved Vendors

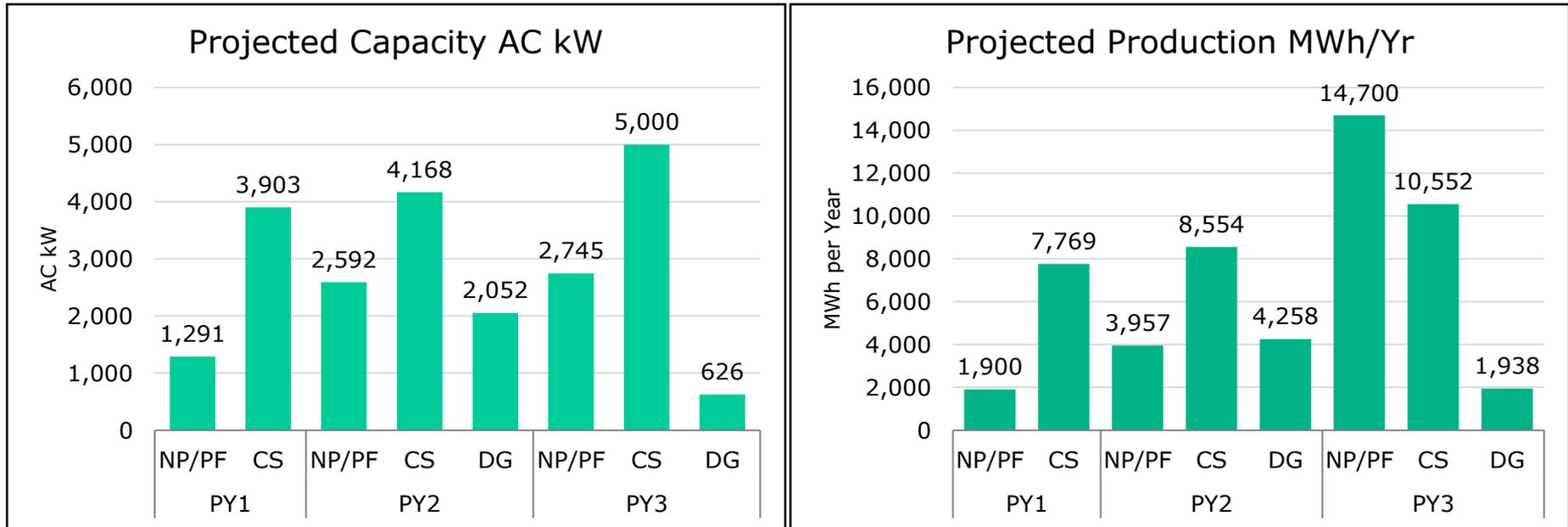
- 58 Approved Vendors
- 8 are MWBEs (9 with sale of one AV)
- 20 AVs had selected projects



Status	PY1 – PY3: 2018-2021			
	NP/PF	CS	DG	Total
Selected	48	11	57	116
Part II Approved	11	1	13	25

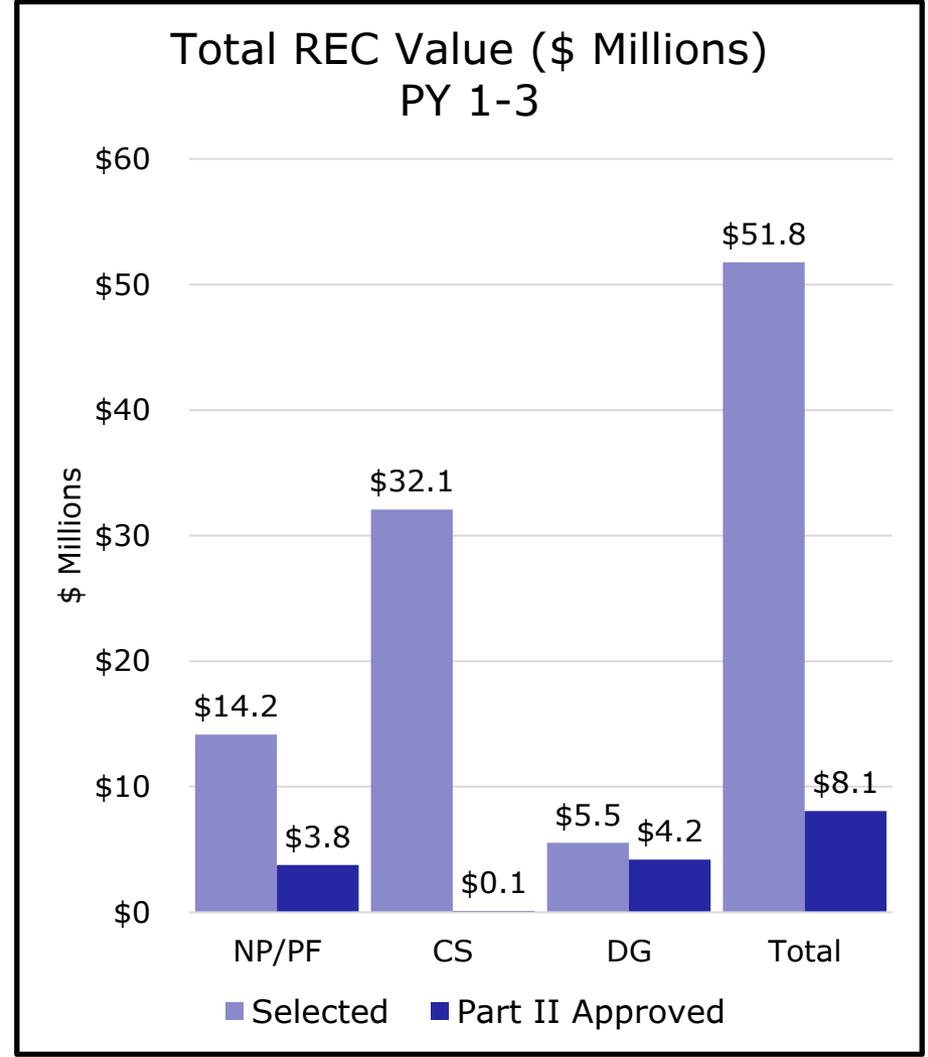
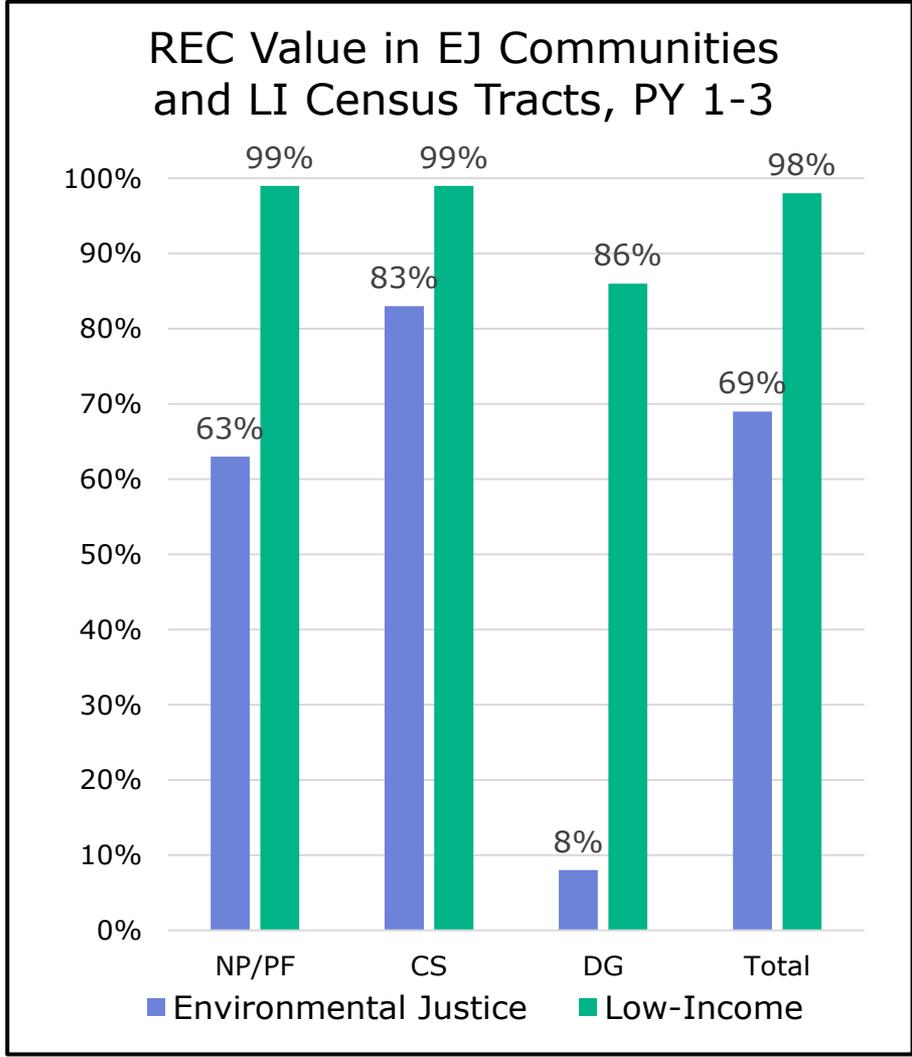
Part II Approved projects are approved to be invoiced by Approved Vendors for constructed projects.

Capacity and Production



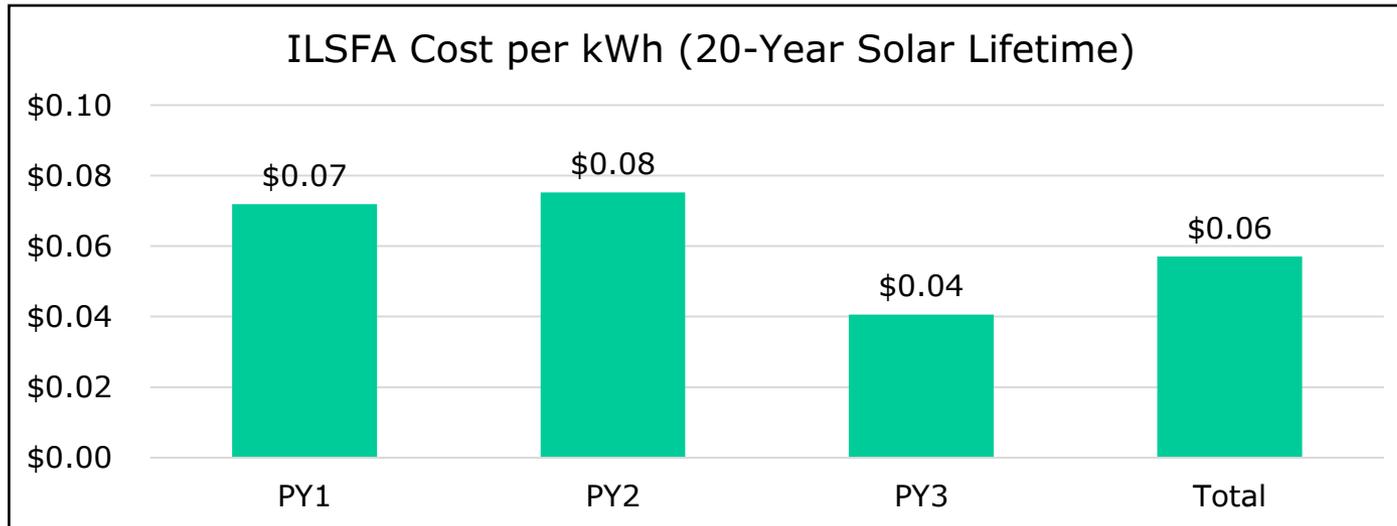
All Selected Projects	PY1 – PY3: 2018-2021			
	NP PF	CS	DG	Total PY1-PY3
Total AC kW	6,628	13,071	2,678	22,377
Total MWh/Yr	20,557	26,875	6,196	53,628

REC Dollars



Data as of April 2021. One large DG project was not in an EJ community.

ILSFA Cost per kWh



	PY1	PY2	PY3	Total
IPA Admin	\$375,426	\$222,155	\$299,019	\$896,600
REC	\$10,780,000	\$22,090,000	\$18,880,000	\$51,760,000
Evaluation	\$76,731	\$339,550	\$496,095	\$912,376
Elevate Admin	\$2,500,000	\$2,100,000	\$2,200,000	\$6,800,000
NERA Admin	\$192,400	\$461,160	\$185,684	\$839,244
Total Spent	\$13,910,000	\$25,240,000	\$22,070,000	\$61,220,000
MWh/yr	9,669	16,769	27,190	53,628
\$/kWh (20 yr)	\$0.07	\$0.08	\$0.04	\$0.06

Impacts

Energy Impacts

Participant Energy Burden



- DG installations projected to reduce mean burden from 6.0% to 2.7% for single-family participants.

Domestically Produced Panels



- AVs reported domestically produced panels were 7-50% more expensive.
- 4% did not expect to use foreign panels.
- 36% planned to use foreign panels.
- 60% did not know.

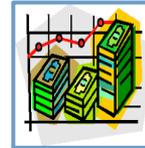
Electric Distribution System



- Increased solar production leads to better sustained voltage (closer to end users).
- Increased solar production can help fill generation void from retired coal plants.

Other Impacts

Economic Impacts



- Estimated \$40.8M increased output.
- Estimated 265 job years.
- From lifetime impacts of first three ILSFA program years.

Environmental Impacts



- Estimated \$66.5M value.
- GHG, SO₂, NO_x, PM 2.5, and VOC reductions.
- Lifetime impacts of first three ILSFA program years.

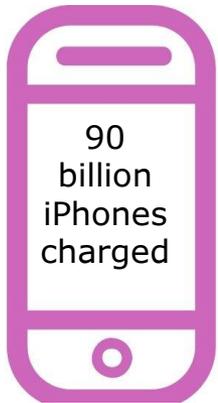
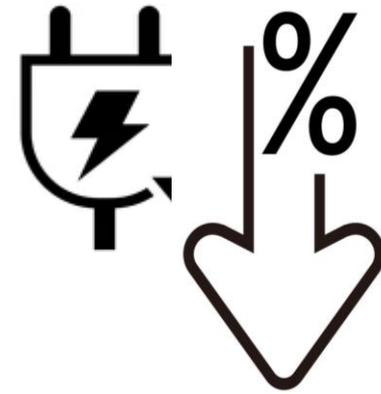
Job Training



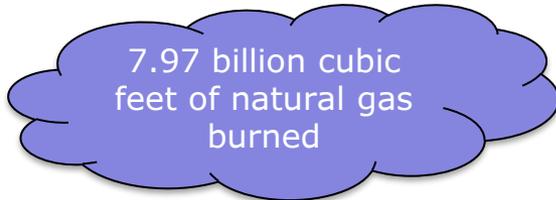
- 107 job trainee affidavits submitted.
- Represented 12 AVs, 63 projects, 33 unique individuals.
- Trainees reported positively on their training and work on the ILSFA program.

Equivalent Impacts

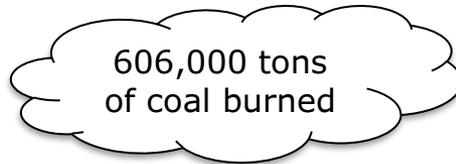
Lifetime production of electricity expected from ILSFA projects selected in the first three program years is equivalent to any of the following.



90 billion iPhones charged



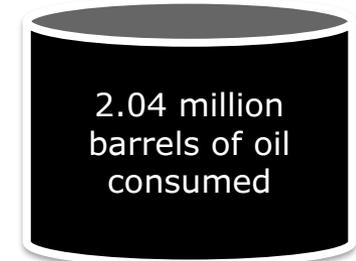
7.97 billion cubic feet of natural gas burned



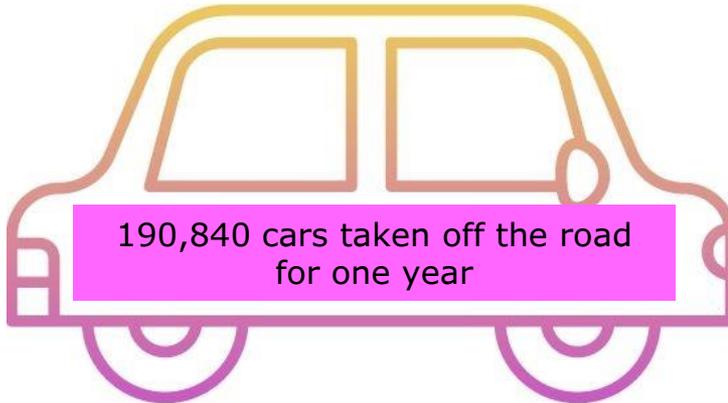
606,000 tons of coal burned



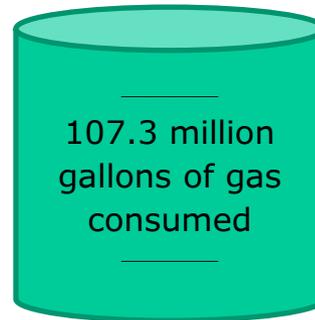
100,720 homes powered for one year



2.04 million barrels of oil consumed



190,840 cars taken off the road for one year



107.3 million gallons of gas consumed



13.9 million trees planted over a

10-year growth period

Calculations based on current generation mix.



Recommendations

Program Design

Recommendations

Assess and Streamline DG Program Requirements

- Reduce redundancies in required documentation.
- Reduce batch requirement for the first set of DG projects.
- Reduce waiting period between disclosures & contract execution.

Limit Program Changes

- Focus program changes on reducing DG project development and participation barriers.
- Allow Program Administrator to focus on:
 - Streamline project development & implementation process.
 - Increase DG project implementation.

Green Bank Plan

- Climate & Equitable Jobs Act of 2021 includes provision to create a Green Bank.
- Plan how Green Banks can aid AVs in project financing.

Partnerships and Coordination

Recommendations

Weatherization Agencies

- Work with CAAs to screen for ILSFA eligibility during WAP service delivery.
- Have CAAs provide lists of WAP participants who are good candidates for the DG sub-program.
- Implement a process to work collaboratively with CAAs.
- Provide training to CAAs where needed.

Other Low-Income Programs

- Identify other low-income programs that can identify potential DG participants.
- Example Programs
 - Habitat for Humanity
 - Chicago Porch and Roof Replacement Program

Utility Low-Income Programs

- Assess future coordination.
- Legislation could specify engagement.
- Funding for project development should be considered.

Implementation

Recommendations

Proactive Assessment and Planning

- Assess how to design procedures to create efficiencies and remove redundancies.
- Work ahead of current implementation steps.



Stakeholder and Partner Engagement

- Implement proactive outreach beyond current email blasts.
- Increase engagement of organizations that serve low-income households.

DG AV and Participant Outreach

- Conduct outreach to AVs to develop more offers.
- Reach out to low-income energy program participants.



Marketing

- Improve website design to make it easier to find information.
- Improve marketing materials to convey information in a simplified manner.

Job Training Organizations

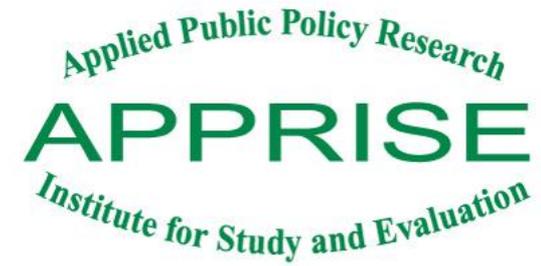
- Qualify additional job training programs outside of the Chicago area.



Project Submission and Approval

- Review and streamline wherever possible.
- Reduce burden of Part II approval process.

Contact



Jackie Berger

APPRISE

32 Nassau Street, Suite 200

Princeton, NJ 08542

609-252-8009

jackie-berger@appriseinc.org

www.appriseinc.org